Estimating and visualizing state positions using UN Security Council Speeches**

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Previous work

Current measures of state interests force a tradeoff between ***dimensionality*** across issue areas, and ***resolution across time***. Often, they are either assumed to be unidimensional (such as alliance patterns) or behavioral indicators are used as proxies for measuring underlying interests (such as whether a country intervenes in one civil war versus another).

Our approach

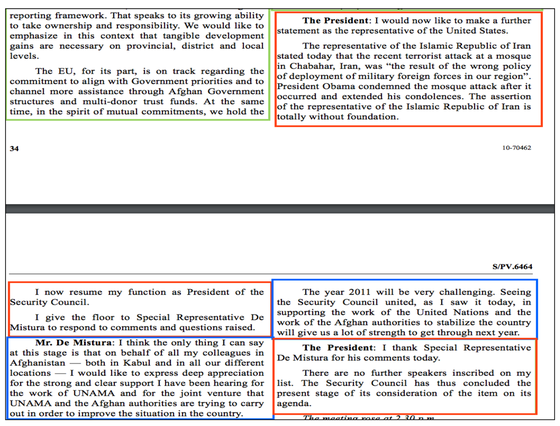
Speech as:

-Empirically observable
-Dynamic over time
-Multi-dimensional content
-Removed from aggregate behaviors (Gartzke & Jo 2006)*

Estimating positions: Data and dimensionality

We treat ***words as features*** ('text-as-data'), where words are ***snapshots of underlying interests***. Words can mean different things though. For example using the word "security" in the context of *nuclear proliferation* likely means something very different than using the word "security" when talking about *post-conflict peacebuilding*. More importantly, they are likely to be projecting different interests. To capture this, we use a ***Dynamic Topic Model*** to give a data-driven estimate of the ***contexts per word.*** This means the actual features of the speeches are *word_topic* pairs.

The data



reporting framework. That speaks to its growing ability to take ownership and responsibility. We would like to emphasize in this context that tangible development gains are necessary on provincial, district and local levels.

The EU, for its part, is on track regarding the commitment to align with Government priorities and to channel more assistance through Afghan Government structures and multi-donor trust funds. At the same time, in the spirit of mutual commitments, we hold the

The President: I would now like to make a further statement as the representative of the United States.

The representative of the Islamic Republic of Iran stated today that the recent terrorist attack at a mosque in Chabahar, Iran, was "the result of the wrong policy of deployment of military foreign forces in our region". President Obama condemned the mosque attack after it occurred and extended his condolences. The assertion of the representative of the Islamic Republic of Iran is totally without foundation.

34

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I now resume my function as President of the Security Council.

I give the floor to Special Representative De Mistura to respond to comments and questions raised.

Mr. De Mistura: I think the only thing I can say at this stage is that on behalf of all my colleagues in Afghanistan — both in Kabul and in all our different locations — I would like to express deep appreciation for the strong and clear support I have been hearing for the work of UNAMA and for the joint venture that UNAMA and the Afghan authorities are trying to carry out in order to improve the situation in the country.

The year 2011 will be very challenging. Seeing the Security Council united, as I saw it today, in supporting the work of the United Nations and the work of the Afghan authorities to stabilize the country will give us a lot of strength to get through next year.

The President: I thank Special Representative De Mistura for his comments today.

There are no further speakers inscribed on my list. The Security Council has thus concluded the present stage of its consideration of the item on its agenda.

The meeting rose at 3.30 p.m.

-1994-2014, about 4000 sessions
-Over 2.5 million words by the P5 alone
-Unique vocabulary of over 60,000 words
-55979 speeches

The model: "Lexical Ideal Point" Model

Figure 2: LIPs as a Graphical Model

LIP: non-linear state-space model

$y = \mathbf{z} * x + w$

$x = \mathbf{A}x_{t-1} + e$

Uses BayesPy's Variational Inference engine for estimation.

Estimation of loadings **z** to infer underlying position *x* per country

y is a vector of words, noisy projections of underlying positions *x*.

Recall that "**word_topic**" is a single feature, rather than "word"

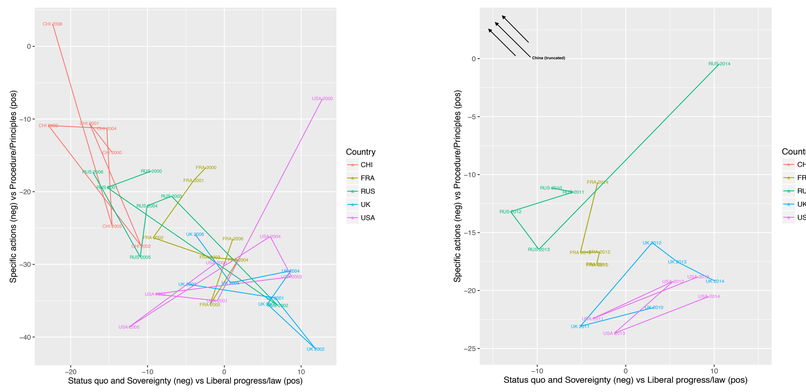
*The **Dynamic Topic Model** estimates the probability any given word will show in a particular topic for unseen, latent "topics" of a document. The "dynamic" component **allows this pr(word\|topic) to change over time**, providing a unique opportunity to simultaneously see **static words** over time (more informative for the analyst to determine how to label/understand a topic) as well as **words that move in and out of topics**, which provide time-specific snapshots of specific issues and how they related to particular issues.*

*For example, the ICC enters the broader **"international law"** topic around 2002, and remains there through the present. "Ebola" enters the broader **"unity"** topic toward the very end of the dataset, highlighting the concerted effort to unite as "one" to combat it.*

	Topic 1: Calls for unity	Topic 4: UNSC role securing communities	Topic 16: Disarmament/nuclear prolif.	Topic 18: Intl law, courts, tribunals
1995	[-]one[-]people[-]must[-]us[-]nations	[-]council[-]security[-]international[-]nations[-]people[-]community	[-]resolution[-]security[-]council[-]nuclear[-]arms[-]embargo[-]weapons	international[-]tribunal[-]justice[-]genocide[-]commission[-]crimes[-]law
2005	[-]people[-]food[-]nations[-]need[-]must[-]needs[-]community	[-]international[-]security[-]terrorism[-]acts[-]community[-]must[-]nations	[-]weapons[-]resolution[-]arms[-]international[-]security[-]proliferation	international[-]justice[-]tribunal[-]tribunals[-]court[-]criminal[-]law
2014	[-]people[-]ebola[-]countries[-]nations[-]health[-]need[-]must	[-]international[-]people[-]must[-]religious[-]security[-]groups[-]community	[-]weapons[-]nuclear[-]resolution[-]international[-]proliferation[-]chemical	[-]international[-]court[-]crimes[-]justice[-]council[-]icc[-]prosecutor

To label the dimensions of the LIP model, which estimates two orthogonal dimensions in which to place estimates of positions, we examine the top word_topic pairs that define the boundaries of the respective dimensions (i.e. the "most positive" and "most negative" words). We interpret these words to determine labeling.

	Dimension 1: Status Quo/Sovereignty vs. Liberal Progress/Law	Dimension 2: Spec Actions vs. Procedure/Principles
Negative	[-] "may_{Calls for unity}"[-] "commission_{Calls for unity}" [-] "agencies_{Calls for unity}" [-] "term_{Calls for unity}" [-] "build_{Calls for unity}"[-] "comprehensive_{UNSC role in securing political rights}" [-] "stability_{UNSC role in securing political rights}"	[-] "military_{Calls for unity}"[-] "immediate_{Calls for unity}" [-] "needed_{Calls for unity}" [-] "presence_{Calls for unity}" [-] "provided_{Calls for unity}"[-] "taken_{Calls for unity}"[-]
Positive	[-] "security_{Calls for unity}"[-] "us_{Calls for unity}" [-] "civilian_{Calls for unity}"[-] "success_{Calls for unity}"[-] "urgent_{Calls for unity}" [-] "major_{Calls for unity}"[-] "concern_{Calls for unity}"[-] "sanctions_{Calls for unity}"	[-] "representative_{Calls for unity}"[-] "leadership_{Calls for unity}" [-] "time_{Calls for unity}"[-] "remains_{Calls for unity}" [-] "together_{Calls for unity}"[-] "steps_{Calls for unity}" [-] "assist_{Calls for unity}"



Panel, 2D positions
2002-2005 2010-present
truncated at China

Panel:
Dimension 1 *Dimension 2*
Words Spoken *2D positions*

Discussion and future steps

This strategy allows us to ***reconcile the tradeoff between dimensionality and cross-temporal resolution***. Empirically, it provides a rich opportunity to leverage a ***broad, detailed data repository of diplomatic speech*** at the UNSC (and UNGA). Theoretically, it revisits the debate over whether speech—otherwise thought of as simply cheap talk—actually ***conveys meaningful information about state interests***.

Our next steps are to validate our measures against both current measures, and against observable behaviors to evaluate their performance in actually predicting behaviors of interest.

*Gartzke, Eric and Dong-Joon Jo. 2006. "The affinity of nations index, 1946-2002". New York: Colombia University
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